

WHAT IS CLAIMED IS:

1. A pharmaceutical composition comprising a recombinant adeno-associated virus (AAV) virion comprising a nucleotide sequence encoding a functional Factor VIII protein, wherein said recombinant adeno-associated virus virion lacks AAV rep and cap genes, and wherein said Factor VIII protein is B domain-deleted.
2. The pharmaceutical composition of Claim 1, wherein said nucleotide sequence encoding a functional Factor VIII protein is operably linked to a tissue-specific promoter.
3. The pharmaceutical composition of Claim 1 wherein said tissue-specific promoter comprises a liver-specific promoter.
4. The pharmaceutical composition of Claim 3, wherein said promoter comprises the HNF-3 albumin promoter.
5. The pharmaceutical composition of Claim 3, wherein said promoter comprises at least a portion of the transthyretin (TTR) gene promoter.
6. The pharmaceutical composition of Claim 1 wherein said nucleotide sequence comprises a heavy chain and a light chain, and wherein said nucleotide sequence further comprises a junction that operably links said heavy chain and said light chain.
7. The pharmaceutical composition of Claim 6, wherein said junction has the amino acid sequence Ser-Phe.
8. The pharmaceutical composition of Claim 6, wherein said junction has the amino acid sequence of SEQ ID NO:15.
9. The pharmaceutical composition of Claim 1, wherein said nucleotide sequence comprises SEQ ID NO:13.

10. The pharmaceutical composition of Claim 1, wherein said nucleotide sequence comprises SEQ ID NO:14.

11. The pharmaceutical composition of Claim 1 further comprising a pharmaceutically acceptable excipient.